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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,107	02/20/2002	Younglok Kim	I-2-176.6US	8050
24374	7590	02/22/2007	EXAMINER	
VOLPE AND KOENIG, P.C. DEPT. ICC UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			HOANG, THAI D	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/22/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/079,107	KIM ET AL.	
	Examiner Thai D. Hoang	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on RCE filed on 1/22/2007.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date 1/22/2007.
- 4) Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

- (i) Claims 1-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/071903. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-18 are the same limitations recited in claims 1-18, respectively, of copending Application No. 10/071903, but they have different preambles.
- (ii) Claims 1-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/071917. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-18 are the same limitations recited in claims 1-18, respectively, of copending Application No. 10/071917, but they have different preambles.
- (iii) Claims 5-12 and 15-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/077076. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 5-12 and 15-18 are the same limitations recited in claims 1-12, respectively, of copending Application No. 10/077076, but they have different preambles.
- (iv) Claims 5-12 and 15-18 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/077565. Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims

Art Unit: 2616

5-12 and 15-18 are the same limitations recited in claims 1-12, respectively, of copending Application No. 10/077565, but they have different preambles.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5, 9, 15 and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 5, 9, 15 and 17 recited "a first and second spreading device", which is not found in the specification or figures.

Claims 6-8, 10-12, 16 and 18 are rejected because they depend on rejected claims 5, 9, 15 and 17 respectively.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(i) Claims 1, 5, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Ylitalo et al., US Patent No. 6,788,661 B1, hereinafter referred to as Ylitalo.

Regarding claim 1, Ylitalo discloses a method and system, "Adaptive beam-time coding method and apparatus." The system comprising the steps of:

generating data symbols  $S_{IN}$ . See figures 4-5 (generating a first data field of symbols);

encoding data field  $S_{IN}$  producing a  $S_{IN}$  (combined  $S_1$  and  $-S_2$ ) having complex conjugates of the symbols of data field  $S_{IN}$ . See figures 4-5 (encoding said data field producing a second data field having complex conjugates of the symbols of said data field);

spreading data symbols  $S_{IN}$  on channel  $CH_1$  associated with a first antenna (fig. 4, 16; fig. 5, 106) using an Orthogonal code (OC), and  $S_{IN}$  on channel  $CH_2$  associated with a second antenna (fig. 4, 18; fig. 5, 108) using another Orthogonal code (OC). See figs. 4-5, col. 4, lines 56-58, and col. 5, lines 37-40 (a first and second spreading device for spreading said first and second data fields, wherein said first spreading device spreads said first data field using a first channelization code and said second spreading device spreads said second data field using a second channelization code, each channelization code being uniquely associated with one of said first and second antennas);

transmitting data symbols of  $S_{IN}$  and  $S_{IN}'$  over the first and second antenna. See fig. 4, 16 and 18; fig. 5, 106 and 108 (transmitting an RF signal including said first and second spread data fields over a first and second antenna.)

Regarding claims 5 and 9, as best understood, Ylitalo discloses the system comprising the steps of:

a first antenna (fig. 4, 16; fig. 5, 106) and a second antenna (fig. 4, 18; fig. 5, 108) for transmitting data symbols of data filed  $S_{IN}$  (combined  $S_1$  and  $S_2$ ). See figures 4-5 (a first and second antenna for transmitting said data field of symbols, wherein said data field includes a first data field);

an encoder 10 for encoding data field  $S_{IN}$  producing a  $S_{IN}'$  (combined  $S_1'$  and  $-S_2'$ ) having complex conjugates of the symbols of data field  $S_{IN}$ . See figures 4-5 (an encoder for encoding said data field producing a second data field having complex conjugates of the symbols of said data field);

the system spreading data symbols  $S_{IN}$  on channel  $CH_1$  associated with the first antenna (fig. 4, 16; fig. 5, 106) using an Orthogonal code (OC), and  $S_{IN}'$  on channel  $CH_2$  associated with the second antenna (fig. 4, 18; fig. 5, 108) using another Orthogonal code (OC). See figs. 4-5, col. 4, lines 56-58, and col. 5, lines 37-40 (a first and second spreading device for spreading said first and second data fields, wherein said first spreading device spreads said first data field using a first channelization code and said second spreading device spreads said second data field using a second channelization code, each channelization code being uniquely associated with one of said first and second antennas).

(ii) Claims 13, 15 and 17, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Dabak et al, US Patent No. 6,594,473 B1, hereinafter referred to as Dabak.

Regarding claims 13, 15 and 17, Dabak discloses a wireless system with transmitter having multiple transmit antennas. The system comprising the steps of:

Generating data symbols  $S_1$  of a data. See figure 4 9 (generating a data field of symbols, wherein said data field includes a first data field);

spreading the data symbol  $S_1$  using a first Wash code  $W_1$  producing  $W_1S_1$ . See fig. 4 (spreading said first data field using a first channelization code producing a first spread data field);

spreading the data symbol  $S_1$  using a second Wash code  $W_2$  producing  $W_2S_1$ . See fig. 4 (spreading said first data field using a second channelization code producing a second spread data field);

wherein  $W_1$  associated with an antenna AT1, and  $W_2$  associated with an antenna AT3 (each channelization code being uniquely associated with one of a first and second antennas);

transmitting  $W_1S_1$  and  $W_2S_1$  over the antennas AT1 and AT3. See figure 4 (transmitting an RF signal including said first and second spread data fields over a first and second antenna.)

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(i) Claims 2-4, 6-8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ylitalo as shown above, in view of Akiba et al, US Patent No. 6,721,300 B1, hereinafter referred to as Ylitalo and Akiba respectively.

Regarding claims 2, 6, and 10, Ylitalo does not disclose that the system comprises a first and second scrambling device for scrambling the first and second spread data fields by a single scrambling code associated with the transmitter. However, Akiba discloses STTD encoding method and diversity transmitter, wherein the transmitter (fig. 1) comprises scrambler 114 and 116 for multiplier a scrambling code to the data transmission. See fig. 1, col. 4, lines 11-14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt scrambling code disclosed by Akiba into Ylitalo's system in order to secure data transmission in the network.

Regarding 3, 7 and 11, Ylitalo discloses the data symbol of data field  $S_{IN}$  are grouped into  $S_1$  and  $S_2$  sub-data field. See figures 4-5 (wherein the symbols of said first data field of symbols are grouped into a first and second sub-data field.)

Regarding claims 4, 8 and 12, Ylitalo discloses the  $S_{IN}$  are grouped into  $-S_2$  and  $S_1$ . See figures 4-5 (wherein the symbols of said second data field of symbols are grouped into a third and fourth sub-data field, wherein said third sub-data field is the negative complex conjugate of said second sub-data field and said fourth sub-data field is the complex conjugate of said first sub-data field.)

Art Unit: 2616

(ii) Claims 14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dabak as shown above, in view of Akiba et al, US Patent No. 6,721,300 B1, hereinafter referred to as Dabak and Akiba respectively.

Regarding claims 14, 16 and 18, Dabak does not disclose that the system comprises a first and second scrambling device for scrambling the first and second spread data fields by a single scrambling code associated with the transmitter. However, Akiba discloses STTD encoding method and diversity transmitter, wherein the transmitter (fig. 1) comprises scrambler 114 and 116 for multiplier a scrambling code to the data transmission. See fig. 1, col. 4, lines 11-14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt scrambling code disclosed by Akiba into Dabak's system in order to protect data transmission in the network.

#### ***Response to Arguments***

Applicant's arguments filed on 1/22/2007 with respect to claims 1-18 under 35 USC §103(a) have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D. Hoang whose telephone number is (571) 272-3184. The examiner can normally be reached on Monday-Friday 10:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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